AMENDMENTS TO THE SPECIFICATION:

Kindly replace the paragraph that begins at page 1, line 15 and ends at page 1, line 19 with the following replacement paragraph:

Examples of small propellor driven flying devices are found in "The NRL MITE Air Vehicle", Proceedings of the Bristol RPV/AUV Systems Conference, 2001, by Kellogg, J., Bovais, C., Dahlburg, J., Foch, R., Gardner, J., Gordon, D., Hartley, R., Kamgar-Parsi, B., McFarlane, H., Pipitone, F., Ramamurti, R., Sciambi, A., Spears, W., Srull, D., and Sullivan, C.~~,~~ ~~the disclosure of which is incorporated herein by reference in its entirety.~~

Kindly replace the paragraph that begins at page 1, line 20 and ends at page 2, line 7 with the following replacement paragraph:

Some other examples of small unmanned vehicles are disclosed in "Nonconventional Aerodynamics for Micro-UAVs", Proc. 16th International UAV Systems Conference, Bristol, UK, April 2001 by Kellogg, J., Bovais, C., Cylinder, D., Dahlburg, J., Foch, R., Platzer, M., Ramamurti, R., and Sandberg, W.C. and in "Development and Testing of Unconventional Micro Air Vehicle Configurations", Proc. of Unmanned/Unlimited Conference, AIAA, September 2003 by Kellogg, J., Bovais, C., Cylinder, D., Dahlburg, J., Foch, R., Ramamurti, R., Sandburg, W.C., Gardner, J., Srull, D., Piper, G., Vaiana, P., and Kahn, A.~~, each of which is incorporated herein by reference in its entirety.~~

Kindly replace the paragraph that begins at page 3, line 15 and ends at page 3, line 19 with the following replacement paragraph:

FIG. 1 illustrates an embodiment of a small vehicle 100 for flying through the air. The vehicle 100 is also described in "Development and Testing of Unconventional Micro Air Vehicle Configurations", Proc. of Unmanned/Unlimited Conference, AIAA, September 2003~~, the disclosure of which is incorporated herein in its entirety~~. The motion of the wings generates thrust which propels the vehicle in the forward direction of motion 102 shown in FIG. 1.

Kindly replace the paragraph that begins at page 5, line 1 and ends at page 5, line 9 with the following replacement paragraph:

Each wing includes a leading edge, formed of a relatively stiff material, attached to a forward portion of a membrane or sheet. The membranes are preferably a material ~~which~~ that is sufficiently flexible to reverse camber during the up and down strokes as the vehicle 100 moves through the air. The membrane or sheet can be a thin Mylar sheet of, or other suitable material. The membrane or sheet can be approximately 5 microns in thickness, or greater or lesser. In FIG. 1 for example, the forward upper wing, for example, includes a membrane 128 attached to the leading edge 116. Battens ~~120~~ 121 can be arranged toward the trailing edge of the wing to stiffen the membrane and to prevent aeroelastic deformation ~~which~~ that might otherwise occur when the wing is flapped at frequencies above 10 Hz.

Kindly replace the paragraph that begins at page 5, line 15 and ends at page 6, line 9 with the following replacement paragraph:

The drive mechanism 170 can be any suitable device driving the wing pairs together and apart. The drive mechanism 170 can include a power source such as a battery, an electric motor or an internal combustion engine. In the example illustrated in FIG. 1, the drive mechanism 170 includes a battery 172, a four watt electric motor ~~174~~, and a gear mechanism 176 geared to provide 8 to 10 Hz oscillation of the beams at cruise speed. In one example, the battery is a lightweight 3.6 gram lithium-ion polymer battery weighing less than 4 grams with a capacity of approximately 135 mA-hr, and the electric motor ~~174~~ can be a small lightweight motor which draws about 1 Ampere, although various other batteries and motors can be used. The central fuselage includes the motor and drive mechanism by which the beams are flapped, the power source, the vehicle control mechanisms, and payload, and is suitably attached to the vehicle at its pivot axis. When both of the vehicle beams 152 and 162 are mirror images and have identical mass, the vehicle is dynamically balanced, so that the vehicle's center of mass is not driven in a vertical oscillation by the flapping motion. This is advantageous for carrying payloads in a flapping wing vehicle, in that the central fuselage does not vibrate violently in flight, a common problem with flapping wing aircraft.

Kindly replace the paragraph that begins at page 7, line 4 and ends at page 7, line 6 with the following replacement paragraph:

An optional rudder 190 can be provided for steering the vehicle. In the embodiment illustrated in FIG. 1, the rudder ~~180~~ 190 is attached at a rear portion of the fuselage 158. The rudder 190 can include a receiver for receiving radio commands from ~~an~~ a remote operator.

Kindly replace the paragraph that begins at page 9, line 18 and ends at page 10, line 1 with the following replacement paragraph:

Additional test and simulation results are found in "Development and Testing of Unconventional Micro Air Vehicle Configurations", Proc. of Unmanned/Unlimited Conference, AIAA, September 2003 by Kellogg, J. et al.~~, the disclosure of which is incorporated by reference in its entirety.~~